

**FIG. 1**

FIG. 1

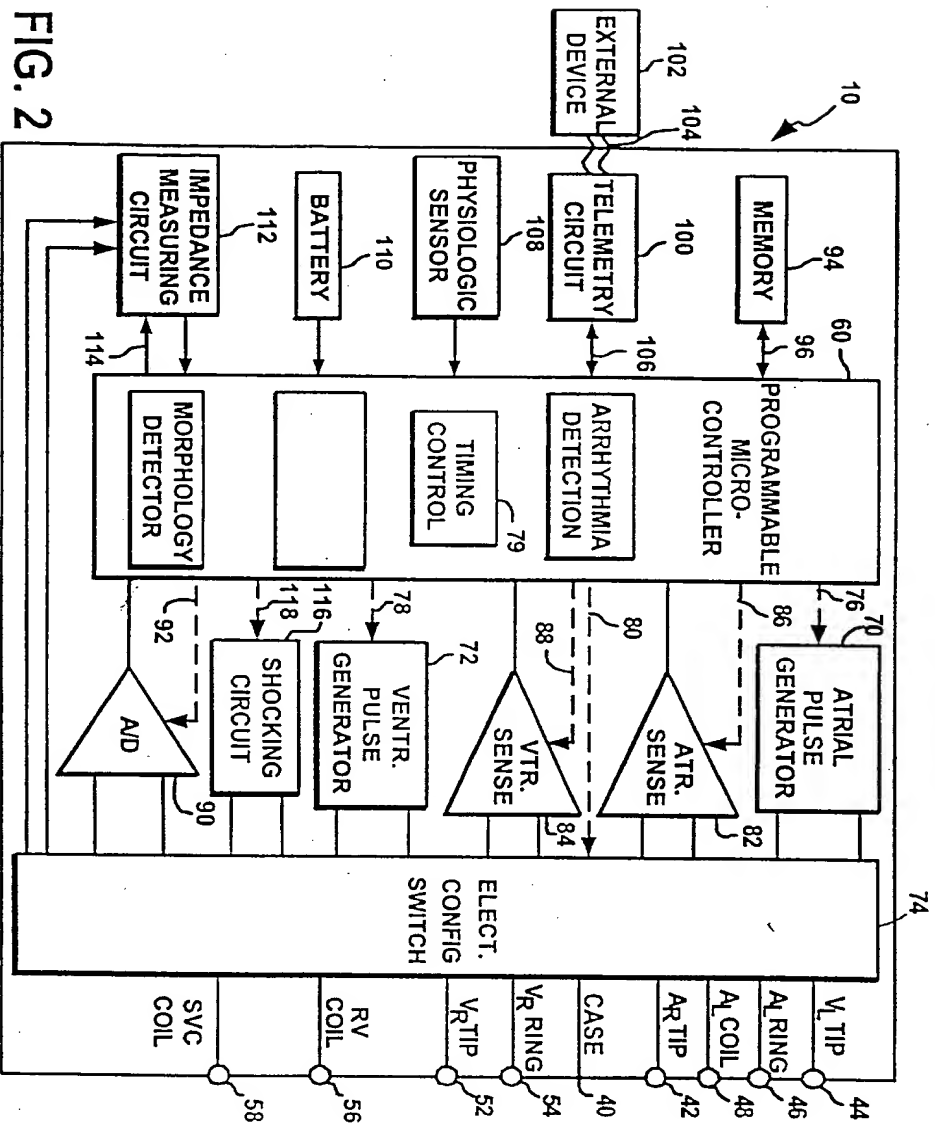


FIG. 2

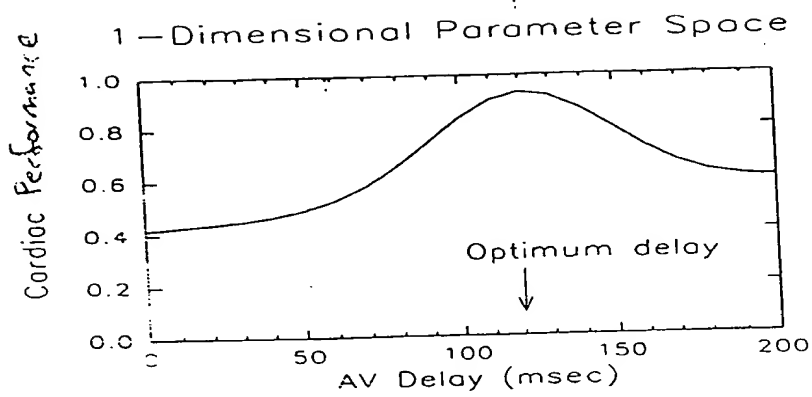


FIG. 3

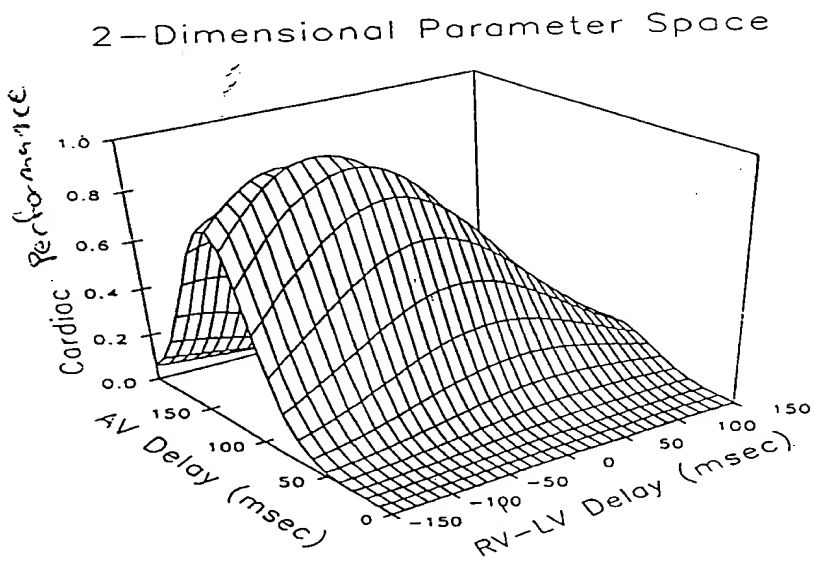


FIG. 4

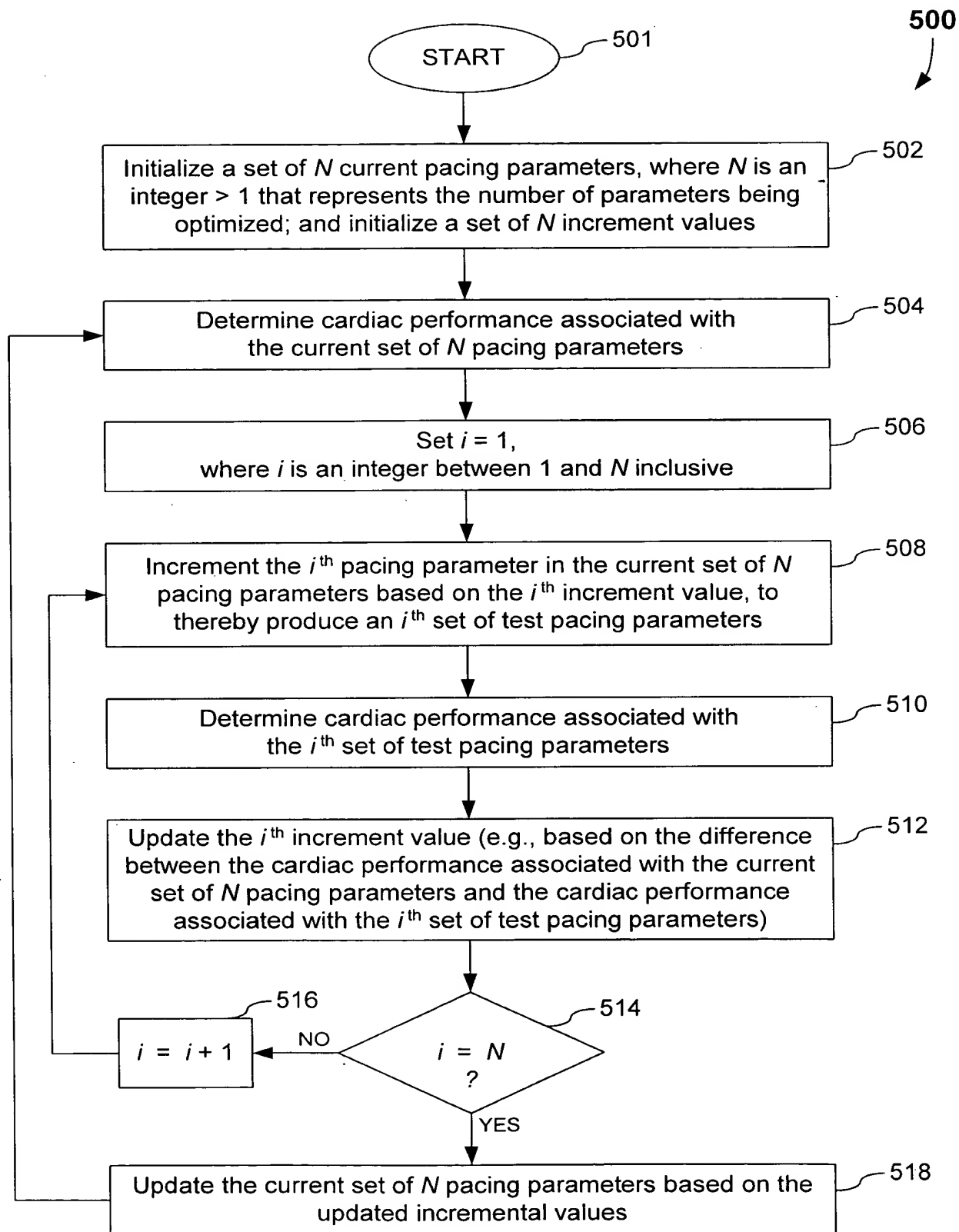


FIG. 5

# Gradient Ascent Parameter Optimization

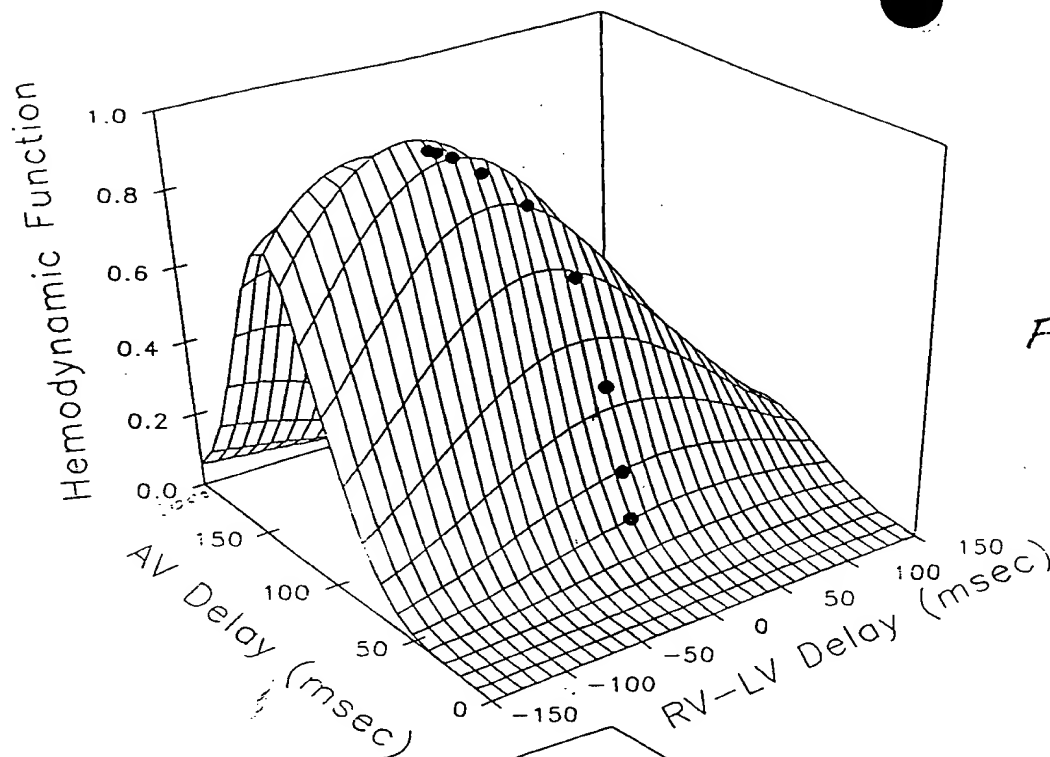


FIG 6A

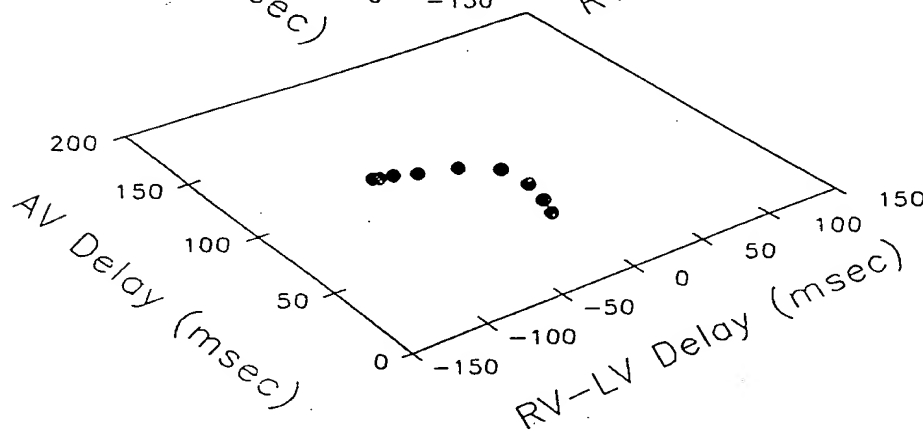


FIG 6B

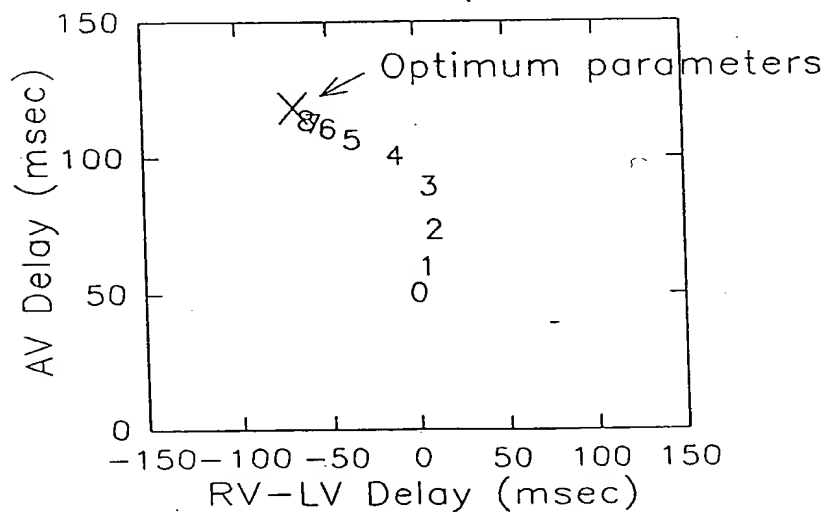


FIG 6C

FIG 6C SEE 63260

```

graph TD
    START([START]) -- 501 --> Init[502]
    Init --> C((C))
    C -- 504 --> PathC[702-716]
    PathC -- 506 --> A1((A))
    A1 -- 508 --> PathA[718-732]
    PathA -- 512 --> PathB[734-740]
    PathB -- 514 --> A2((A))
    PathB -- 516 --> B((B))
    A2 -- 518 --> B
  
```

**Flowchart Details:**

- Block 501:** START
- Block 502:**  $\bar{P}_0 = [150, 0]$   
 $\bar{\delta}_1 = [10, 0]$   
 $\bar{\delta}_2 = [0, 10]$
- Block 504:** Junction point for Path C.
- Path C (Dashed Box 702):**
  - Block 702: Count = 4,  $P_0 = 0$
  - Block 704: Pace with current parameters  $\bar{P}_0$
  - Block 706: Pace with current parameters  $\bar{P}_0$
  - Block 708: Measure pulse amplitude
  - Block 710: Decision: Pulse amplitude valid?
  - If YES: Block 712:  $P_0 = P_0 + \text{pulse amplitude}$
  - Block 714: Count = Count - 1
  - Block 716: Decision: Count > 0?
  - If YES: Loop back to Block 706.
  - If NO: Proceed to Block 506.
- Block 506:**  $i = 1$
- Block 508:** Junction point for Path A.
- Path A (Dashed Box 718):**
  - Block 718: Count = 4,  $P_0 = 0$
  - Block 720: Pace with test parameters  $\bar{P}_i$
  - Block 722: Pace with test parameters  $\bar{P}_i$
  - Block 724: Measure pulse amplitude
  - Block 726: Decision: Pulse amplitude valid?
  - If YES: Block 728:  $P_i = P_i + \text{pulse amplitude}$
  - Block 730: Count = Count - 1
  - Block 732: Decision: Count > 0?
  - If YES: Loop back to Block 722.
  - If NO: Proceed to Block 512.
- Block 512:**  $\bar{\delta}_i = K \cdot \bar{\delta}_1 \cdot (P_i - P_0)$
- Block 514:** Junction point for Path B.
- Path B (Dashed Box 734):**
  - Block 734:  $i = 1$
  - Block 736:  $\bar{P}_0 = \bar{P}_0 + \bar{\delta}_i$
  - Block 738: Decision:  $i = N$ ?
  - If YES: Proceed to Block 518.
  - If NO: Block 740:  $i = i + 1$
  - Loop back to Block 736.
- Block 518:** Junction point for Block 504.
- Block 516:**  $i = i + 1$
- Block 518:** Junction point for Block 508.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 508.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:** Junction point for Block 504.
- Block 514:** Decision:  $i = N$ ?
- If YES: Proceed to Block 518.
- If NO: Block 516:  $i = i + 1$
- Block 516:** Loop back to Block 514.
- Block 518:**

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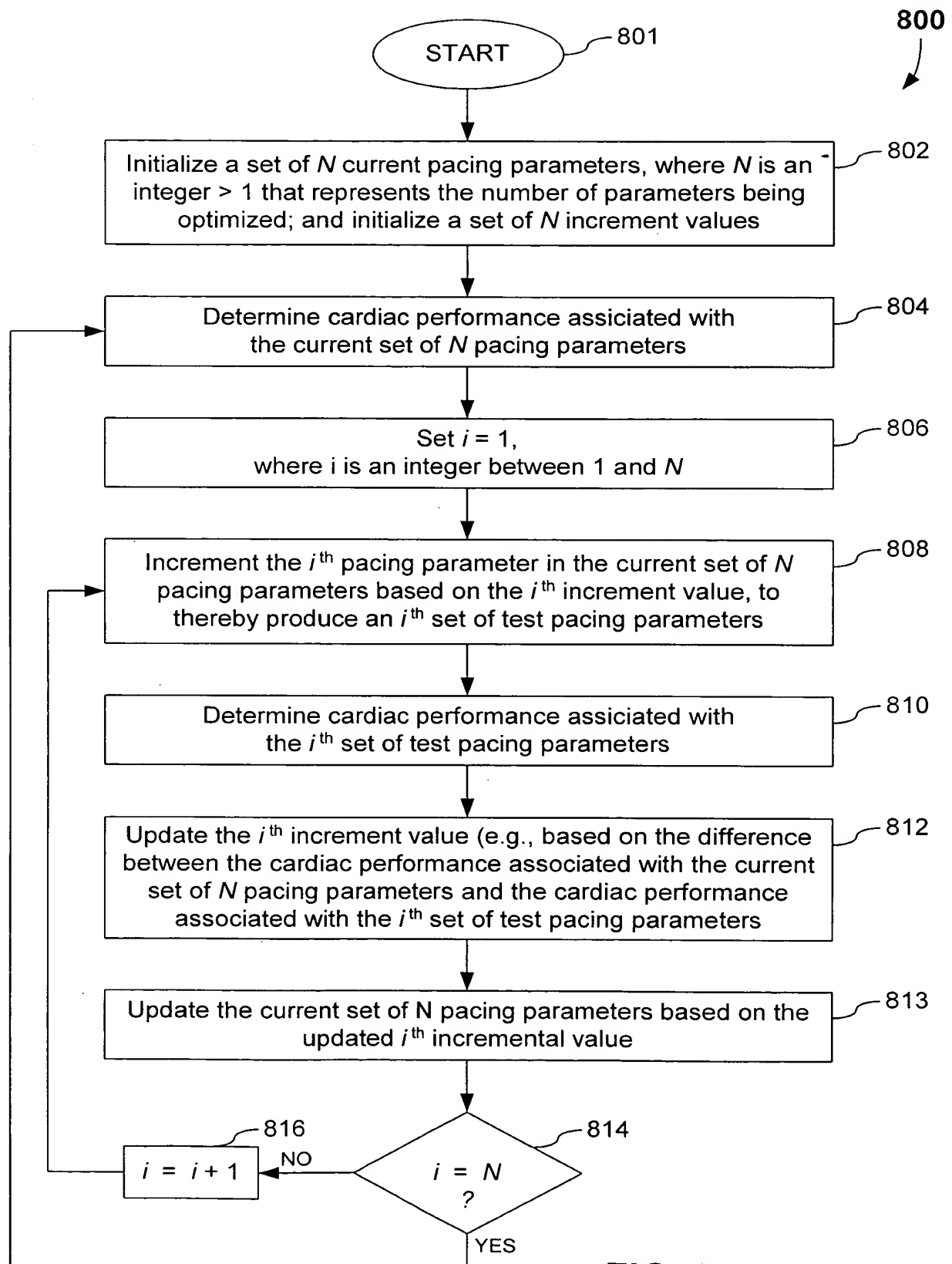


FIG. 8

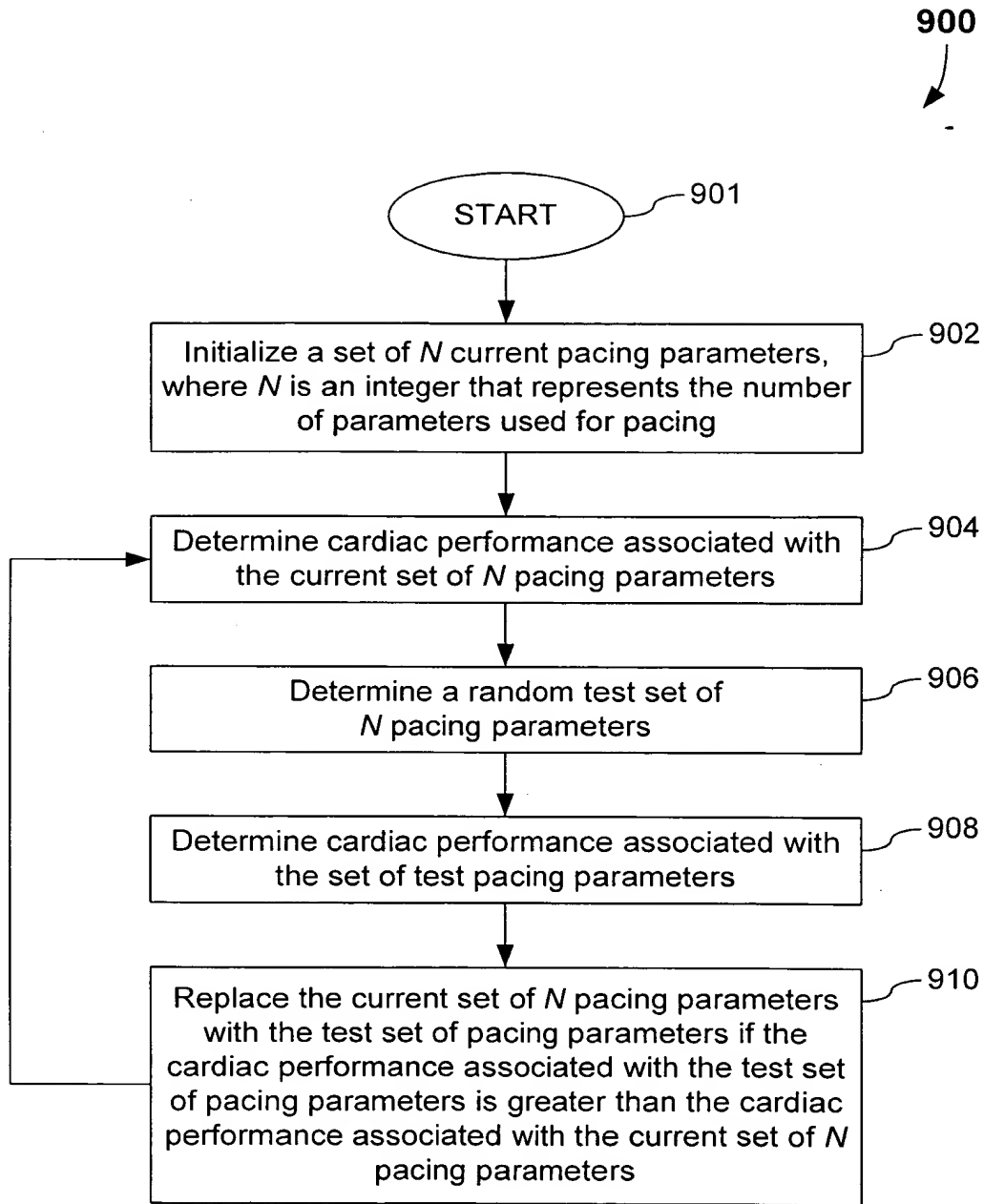
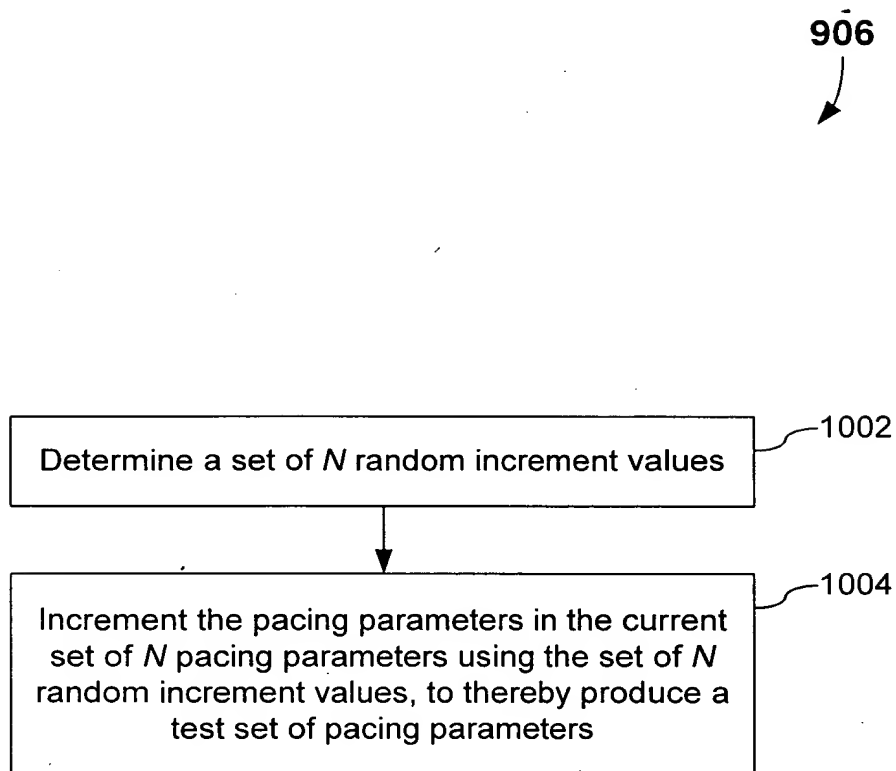


FIG. 9





**FIG. 10**